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ABSTRACT

American education reflects American society, and when society has difficulty in establishing clear objectives for itself, as it does now, education also has difficulty. Behavioral objectives and educational accountability are a result of public pressure and reflect a broad social movement originating in business, where the emphasis has traditionally been upon efficiency, rationalization, and engineering. For over half a century education has been frantically trying to measure the results of teaching so it may answer a society which gets very impatient at what it deems as unsatisfactory performance. And yet, if we had spent that time on teaching itself--what it is, how it works, who the learner really is, and what his needs are--perhaps we would now be riding fewer hobby horses and spending much less time bumping around in the dark. (Author/LL)

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ACCOUNTABILITY AND BEHAVIORAL OBJECTIVES: Hobby Horses to the Rescue

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by Charles R. Duke

American public schools, because of the nature of their patterns of organization, support and control, are vulnerable to the strongest social forces. As a result the goals of American education reflect the goals of American society in general; but if that society has difficulty in establishing clear objectives for itself, which has often been the case, then this confusion is certain to be mirrored in the schools of the nation. Consequently, one year we may work for career education, another year may see our attempts to individualize instruction, and still another may find us pursuing the voucher system. This type of see-sawing and sensitivity to public pressures invites educators to ride society's favorite hobby horses, resulting in an unlighted arena where everyone rides madly around in the darkness, bumping into each other. Although the choice of mounts changes frequently, the confusion and darkness remain.

The present situation in education is a good example. The favorite hobby horse this time seems to have two heads — accountability and behavioral objectives. Although the nature of the beast may seem a bit strange, educators have already mounted and are riding pell-mell through the dark trying to win the race for society's approval — and dollar. The peculiar thing about this race is that at least part of it has been run before, although few people have realized that.

But what is accountability? Dr. Anna Hyer, Director of NEA's Educational Technology Division, defines accountability as "agreeing upon objectives, deciding upon input to achieve the objectives, and measuring the output to see the degree to which the objectives have been met."[1] If this definition sounds as though it comes from a business report, do not be surprised. What is faced in the accountability crisis is a scientific approach to education which reflects a broad social movement originating in business where the emphasis has traditionally been upon efficiency, rationalization, and engineering.

Actually the accountability movement can be traced to the early 1900's (see Raymond Callahan, *Education and the Cult of Efficiency*, Chicago, 1962). At that time the rising cost of living, the emphasis upon conservation of resources and the elimination of waste as well as the general reform attitude of the public led to the application of business procedures to education. Efficiency experts and "scientific" managers soon appeared, more than willing to correct the ills of education by applying the successful principles of business. For the most

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part, administrators, who had little choice since public pressure was so great, welcomed them. In 1905, George H. Martin, secretary of the State Board of Education in Massachusetts, told members of NEA, "The contrast between modern business methods and the most modern methods of education is so great as to suggest some searching questions. In the comparison, educational processes seem unscientific, crude and wasteful."[2]

And so the age of scientific management began. One of the first areas to be scrutinized carefully was that of curriculum, for not surprisingly, the techniques of curriculum design up to the 1900's had not been particularly scientific. Controlling purposes of education were vague, student and instructional objectives unclear, and general evaluation usually ambiguous. The curriculum specialists went to work to develop a rational explanation of the purposes of education. Adopting a functional approach, the specialists attempted to relate education more closely to the tasks which society felt were appropriate for schools. To insure that these tasks would be accomplished, teachers were given specific guidelines as well as lists of instructional objectives which sometimes numbered as high as 160.

The movement also meant a change in working conditions and school organization. Franklin Bobbitt, one of the well-known curriculum specialists of the time, indicated that definite improvements could be made.

> It appears possible so to speed up the work that one teacher may be able to handle two shifts of pupils in academic subjects during a six-hour day with not more than two hours required for daily preparation. The teacher may then be told that the remaining four hours of the day not needed for sleep and meals may be used for the variety of humanizing activities for keeping one's self up to standard.[3]

And so the age of accountability was absorbed into education. But difficulties arose. The problems of applying business techniques to education were not immediately overcome. For one thing there were so many different elements involved in the product — the student — and he was affected by so many externals that it was difficult to control the shaping of raw material. Another factor also became apparent; in education of the type the United States endorsed, one could not exchange poor raw material for good. But these problems were just signs of difficulties ahead, for additional complications soon arrived. Teachers discovered that they could not manage the many specified objectives; educators also began to reject the idea that the child should

be regarded simply as a complex machine which could be produced on an assembly line basis like any other commodity. Teachers turned instead to a conviction that the child was a growing organism who ought to participate in planning his own educational program and be treated as a unique individual.

Gradually the clamor diminished and the presence of business techniques of accountability ceased to attract so much attention; the emphasis was still there in educational circles, though, particularly among administrators who found that in order to keep their large school systems running, they did, indeed, have to copy many of industry's accounting principles.

The accountability movement, then, is not new. But why has it surfaced again? Part of the reason for its present emphasis can be traced to parents, employers, and others who are unhappy about today's products of education. In the May 1970 issue of the *Harvard Educational Review*, David Harman indicated that perhaps 50 per cent of the people over twenty-five in the United States probably could not read such basic items as newspapers, job applications, and drivers' manuals. Although his figures seemed high, they were not totally inaccurate. A survey conducted by Louis Harris and Associates, reported in the *New York Times* (September 12, 1970), indicated that at least 13 per cent of the adult population in the United States has literacy problems so severe that their daily life may be impaired. Recent statistics from the National Assessment project support such beliefs. Reports such as these have alarmed the public and aroused them to insist upon some kind of accounting in education; but still another impetus for accountability can be traced to present social conditions. The continued rise in the cost of living as well as the high tax rates, which people feel are becoming unbearable, has made the public more cost conscious; just how serious that displeasure can become is reflected in the present plight of large city school systems such as Detroit, Michigan. In a society which often measures success in terms of dollars and cents, education appears to be an enterprise that is not paying its way.

Accountability, consequently, calls for measurement of the quality of the product. To answer that demand, educators have drawn upon a field which in recent years has become increasingly important. Perhaps best known through the work of B. F. Skinner, the field of behaviorism seems to suggest ways of measuring educational results. There is, however, an important distinction to be made. Behaviorism is a psychological system, while behavioral objectives, which is what

educators have focused upon, are an amalgamation of systems analysis — taken from business — behavioral psychology, and measurement theory.

The marriage between behavioral objectives and accountability has been an uneasy one and has taken several forms. One of the most popular has been performance contracting. To insure positive gains for the accounting process, several hundred school districts turned to business. Using materials prepared by themselves, business firms contracted with school districts to teach pupils and guaranteed the school districts a certain rise in achievement, usually at least one grade level above where the students began. If a student failed to achieve this level, then the firm did not get paid for the instruction of that pupil. The amount of money involved in performance contracting is staggering, and many school districts went deeply into debt in order to participate.

There have been some well-publicized disasters. The Texarkana project, a joint program in Texas and Arkansas, is perhaps the most widely known. Dorsett Educational Systems was hired to teach reading and mathematics to potential drop-outs; students made spectacular growth as evidenced by the tests given to them, but it was then discovered that the instructors had been teaching answers to the standard national tests which were used for evaluation. The emphasis upon the money involved in these projects made such a practice a definite temptation; steps were taken, however, to assure a contamination proof evaluation system.

Although not all school districts could afford performance contracting, they did pick up the idea of measuring behavioral outcomes. Efforts were made and are still continuing to establish banks of behavioral objectives from which teachers and school systems could draw for their own purposes. Most of the terminology and organization of these objectives can be traced to behavioral psychology. Certain questions frequently used in that field, such as the following, have influenced the wording of behavioral objectives in education.

1. What behavior is to be set up?
2. What reinforcers are at hand?
3. What responses are available in embarking upon a program of progressive approximation which will lead to the final form of behavior?
4. How can reinforcements be most efficiently scheduled to maintain the behavior at strength?[4]

These questions suggest a programming of human behavior

which many people find distasteful. B. F. Skinner, who formulated the previous questions, has spent most of his life studying the psychology of human and animal behavior; and his findings have aroused considerable controversy. Still, much of what Skinner has to say makes good educational sense. He has suggested that if the advances which have recently been made in control of behavior can give a child true competence in reading, writing, spelling, and mathematics, then perhaps the teacher will be free to begin functioning in a more effective way, developing intellectual, emotional, and cultural contacts with the child. But Skinner warns that the techniques which are emerging are not meant to further what he calls "vague aims" of educators, such as developing understanding and promoting appreciation. On the contrary, the techniques are designed to establish the behaviors which are taken to be the evidence of such mental states or processes.

Most educators, however, do not wish to go quite as far as Skinner does in programming human behavior. But they have profited from his work, for from it they have obtained what appears to be a formula that will enable them to cope with the accountability crisis. Accordingly, it is not surprising to find some basic behavioral principles applied to the creation of instructional objectives, although some confusion remains as to which principles are appropriate. Some guides which are offered to educators who are attempting to write behavioral objectives suggest that a good instructional objective should say three things:

1. What is it that a student who has mastered the objective will be able to do?
2. Under what conditions will he be able to do it?
3. To what extent will he be able to do it?

Other guides suggest that there are three types of behavior that should be considered:

1. Can-do: specific things the student can do at the end of a particular segment of education that he couldn't do at the beginning
2. May-do: things a student may be able to do in a novel or unfamiliar situation as a result of mastering can-do behavior
3. Will-do: choices and preferences that describe the quality of an adult's life; these are present only fractionally in school.[5]

From guidelines such as these have come hundreds of behavioral objectives; most of them have three basic parts: the stimulus or test condition, the behavioral goal, and a quality criterion.

Some subjects such as science and mathematics seem to lend themselves more than others to the use of behavioral objectives. In fact, those subject areas which deal heavily in cognitive learning are easily organized through behavioral objectives. Because of this, educators have tended to stress those areas and use them to indicate the proficiency of students.

There is no question that the behavioral objectives movement along with the emphasis upon accountability have caused some serious re-thinking of educational goals and instructional objectives. In that respect the movement has been helpful. Teachers have long needed to be much more aware of what it is they are teaching, and they also have needed to be much more specific in explaining to the public what it is that education hopes to accomplish. But some serious questions remain unanswered about the current emphasis.

Part of the difficulty lies in the fact that learning, which is primarily a mental activity, is not directly observable at all times; even B. F. Skinner admits that output cannot be completely accounted for in terms of input. But if a statement of performance is to be useful for evaluative purposes, it must specify some kind of behavior which can be observed. This suggests that with so much emphasis being placed on observable behavior, teachers will tend to concentrate on low level cognitive outcomes which can be easily seen and measured. This is not, however, a new problem.

> Traditional statements of objectives tend to divorce the learner from the subject matter. Even when such objectives are important, they lose a great deal of their validity by being treated as entities that are totally separate from the learner when they are seen as objects to be given to the student much as one would give a spoon to a child. Such a conception treats teaching and learning as a series of isolated, partitioned acts in which one gives and the other takes discrete items of information.[6]

These problems are quite apparent in English. Naturally, some aspects of English can be converted to behavioristic terms — reading and spelling — and measured without too much difficulty; but other aspects seem to defy this kind of accounting. For instance, a long range goal in English might be to have students develop emotionally and intellectually through imaginative experience. This is usually not overt behavior but an internal process which may take years. Thus, in English where a great deal of effort is spent on encouraging such things as aesthetic sensibilities, creativity, empathy, and appreciation,

we can expect some distinct problems in accounting. We are also faced with the problem that a person's beliefs, attitudes, and values, as well as his personality characteristics, all enter the learning process; but these same things are regarded as private matters, and one does not attempt to program these if he is at all attuned to the Judaeo-Christian tradition.

Attempts have been made, though, to work in both the cognitive and affective domains in English to establish valid behavioral objectives. The Tri-University Project for Performance Objectives in English is one example of efforts in this direction. However, in many cases where behavioral objectives are presently being used, the emphasis falls on very low levels of applicability. For example, consider the following objectives in poetry which would measure a student's growth in the affective domain.

1. The student will listen to poetry read in the classroom.
2. The student will respond to questions about poetry when the teacher asks such questions.
3. The student will voluntarily bring poems to class and express satisfaction when they are read and discussed.
4. The student will justify the value of poetry as a significant aspect of figurative communication.
5. The student will display by his behavior that he has internalized an ordered view of the poetic experience and its importance for a full, humane existence.[7]

None of the previous statements is a suitable measure of what has taken place internally. Every one of the previous objectives is a prime example of how educators talk about measuring aesthetic sensibility, cultural growth, appreciation, and empathy but end up measuring can-do behaviors which are going to be extremely obvious to students. The whole process of critical thinking and appreciation seems to defy the precise objective kind of measurement called for in the accountability movement. How, for example, would one explain in clear behavioral terms what is happening or has occurred in the following situation. A teacher and students have just completed a reading of Robert Frost's "Stopping by Woods on a Snowy Evening"; the teacher turns to the group and says, "Now, what is the basic difference between the man and the horse in the poem?" One student says, "Well, the horse has four legs and the man has two." The teacher says, "Good." Someone else says, "One of them is happy, the other is sad." Teacher again replies, "Fine." Finally, another student says, "The man knows he is going to die and the horse doesn't."[8]

It would seem that much of what we aim for in education is perception such as the above, but how one measures the acceptability of any of the above answers seems to be somewhat beyond the present behavioral or accountant approach to education. In fact, Benjamin Bloom, who has spent considerable time working on this very problem, suggests that a great part of the hesitation in the use of affective measures for grading purposes stems from the woeful inadequacy of the measuring techniques now available and the ease with which a student may exploit his ability to recognize the responses which will be rewarded and those which will be penalized. Students learned quickly in the performance contract schools to hold back so they could go through a cycle again and earn more green stamps or other prizes. B. F. Skinner in his many studies has pointed out that reinforcement continues to be important long after an organism has learned how to do something; it is quite possible that a child who learns under certain types of control may stop behaving that way as soon as those controls cease, no matter how appropriate the behavior may have been. And now we find that the carrot-stick type of situation that existed in the performance contract schools is no more effective in promoting learning than the traditional methods. After a study of eighteen school districts, which among them had spent 7.2 million dollars on performance contracting, the Office of Economic Opportunity stated: "The overall differences are so slight that we can conclude performance contracting was no more effective in either reading or math than the traditional classroom methods of instruction."[9]

Such a conclusion illustrates another problem, one which has been with education for years. As we look at the history of education, we note many widely publicized efforts to improve education — many hobby horses, if you will — but there has been an extraordinary lack of attention paid to method and process. The present excitement and anxiety over the accountability and behavioral objectives movement are just one more sad example. It does little good to convert all our objectives into behavioral terminology without first looking closely and with considerable skepticism at our methods of achieving those objectives. One can establish criteria as often as he wishes, but unless he has an effective method for achieving those criteria, little will change. The question that remains, then, is what leads educators as well as society in general to think that because they now have behavioral objectives which define goals and the criteria of achievement that we will have any more definable success than with what we have

been doing right along; that is, if we continue to use the same methods and approaches to learning, as it seems likely we shall if one relies on past history, are we really going to see that much change in our schools and in our students? And if we do see a change, what price will we pay in terms of human worth and creativity?

Education has often been accused of being too humanistic and not scientific enough. But what happens when we concentrate almost exclusively on the scientific or cognitive to satisfy some present standard of social accountability? "If students are to be judged on the concrete evidence provided by their attainment of specific behavioral objectives, it will not be long before teachers, knowing their fate rests on their students' meeting these circumscribed criteria, will focus their teaching on measurable, albeit insignificant learning."[10]

Most educators would say that it is important to develop the affective domain, but how does one measure intellectual and aesthetic growth when that growth may just be getting its start in school, and the observable and desirable behaviors do not appear until much later in life? It would appear that when we are dealing with the personality of the child, with the efficiency of the teacher, and with the school as an entity, we are still going to find ourselves relying heavily on methods of evaluation which call for judgment rather than scientific management.

No enterprise has truly improved itself until it has examined the very basic processes under which it operates. Therefore, if we were to focus on the facilitation of learning — mainly the how, why, and when the student learns, as well as how the learning seems and feels from the inside — we might be involved in a much more valid activity. Pedagogy has never been a terribly popular word, but we have brought a great deal of the unpopularity on ourselves. For over half a century education has been frantically trying to measure the results of teaching so it may answer a society which gets very impatient at what it deems an unsatisfactory performance. And yet, if we had spent that time on teaching itself — what it is, how it works, who the learner really is, and what *his* needs are — perhaps we would now be riding fewer hobby horses and spending much less time bumping around in the dark.

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Notes

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